

FIGURE 1-A

PROTEIN	DESCRIPTION	REFERENCE ¹	mRNA / gene Sequence ²
Voltage-Gated Ion Channel	K+ channel beta 1a subunit	Hs.45090	U33428 L39833 L47665
Sodium Channel	Voltage dependant sodium channel	Hs.635	L0611 M92392 M76560
Calcium Channel	Dihydropyridine-Sensitive L-Type, Calcium Channel Beta-1-B1 Subunit	Hs.1294	L33798 U30707 M76559
	Dihydropyridine-sensitive L-type calcium channel alpha-1 subunit (CACNL1A3), Neuronal DHP-sensitive, voltage-dependent, calcium channel alpha-2b subunit	Hs.1295	Hs.1296
	Dihydropyridine-sensitive I-type, skeletal muscle calcium channel gamma subunit	Hs.23838	L07738 Z19603
	Neuronal DHP-sensitive, voltage-dependent, calcium channel alpha-1D subunit	H.24852	M76558 M83556 D43747
	Putative calcium influx channel (htrp3)	Hs.65441	U47050 Y13758
	Voltage-dependent calcium channel alpha-1 E-3		L29385 L29384 L27745
	N-type calcium channel alpha- subunit	Hs.69949	M94172 M94173
	Voltage-dependent L-type Ca channel alpha 1 subunit	Hs.89925	L29536 L29534 M92269

¹ Genbank reference designation for protein. Proteins with no designation are referenced in this text.

² Genbank mRNA or gene sequence reference designation.

FIGURE 1-B

PROTEIN	DESCRIPTION	REFERENCE	mRNA/gene Sequence
Ligand-Gated Channel	Gamma-amino butyric acid (GABA) receptor Nicotinic Acetylcholine Receptor	Hs.16362	AF007891 U52464
G-Coupled Receptor	P2Y6 receptor	Hs.784	L08177
	Chemokine (C-C) receptor 7	Hs.1544	U14910
	Human RPE-retinal G protein-coupled receptor	Hs.11173	U52153 D87327
	Inwardly rectifying potassium channel Kir3.2		U24660
			U24660
			U24660
G protein-coupled receptor kinase GRK4		Hs.32859	L03718 U33054
	G protein-coupled inwardly rectifying potassium channel Kir3.4	Hs.37168	U52154
	G protein-activated inwardly rectifying potassium channel HGIRK1/Kir3.1	Hs.37169	U50964
Receptor-Gated Channel	Fc fragment of IgE, high affinity I, receptor for, beta polypeptide	Hs.30	M89796
	Interleukin 2 receptor gamma chain	Hs.84	L19546
	Cholecystokinin A receptor	Hs.129	L13605 L19315
	Peripheral-type benzodiazepine receptor	Hs.202	M36035
	Cholecystokinin B receptor	Hs.203	L07746 L10822
			L10822
			L10822
			L10822
	Glucagon receptor	Hs.208	L20316
	Serine/threonine-protein kinase receptor R4 precursor	Hs.220	L11695
	Formyl peptide receptor-like 1	Hs.251	M84562 M88107
	Adenosine receptor A3	Hs.258	L20463 L22607

FIGURE 1-C

PROTEIN	DESCRIPTION	REFERENCE	mRNA/gene Sequence
Growth Factor Receptor	Pleiotrophin (heparin binding growth factor 8, neurite growth-promoting factor 1)	Hs.44	M57399
	Hepatocyte growth factor activator precursor	Hs.104	D14012
	Fibroblast growth factor 9 (glia-activating factor)	Hs.111	D14838
	Insulin-like growth factor binding protein 2	Hs.162	M35410
Kinase	Human growth factor receptor tyrosine kinase (STK-1)	Hs.385	U02687
	Proto-oncogene c-cot (protein-serine/threonine kinase)	Hs.248	D14497
	Receptor protein-tyrosine kinase sly	Hs.301	U18934
		D17517	
	Calcium/calmodulin-dependent protein kinase IV	Hs.348	D30742
	Creatine kinase B	Hs.669	L24959
Transferase	V-raf murine sarcoma viral oncogene homolog B1	Hs.622	M95712
	Glucosaminyl (N-acetyl) transferase 1, core 2	Hs.781	M97347
	Glutathione S-transferase, microsomal	Hs.790	J03746
	UDP glucosyltransferase 8 (UDP-galactose ceramide galactosyltransferase)	Hs.57700	U30930
Isomerase	Peptidylprolyl isomerase B (cyclophilin B)	Hs.699	U62899
	3-Beta hydroxy-5-ene steroid dehydrogenase type II	Hs.825	M67466
		N77144	
	Glucose phosphate isomerase	Hs.944	K03515
	Hydroxy-delta-5-steroid dehydrogenase, 3-beta- and steroid delta-isomerase 1	Hs.38586	M27137
Protease	26S protease regulatory subunit 4	Hs.548	M38180
	Hepsin	Hs.823	L02426
	Granzyme B precursor	Hs.1051	M17016
	Glycine cleavage system protein P (glycine decarboxylase)	Hs.27	M64590
Dehydrogenase	17 beta hydroxysteroid dehydrogenase, type 2	Hs.181	L11708

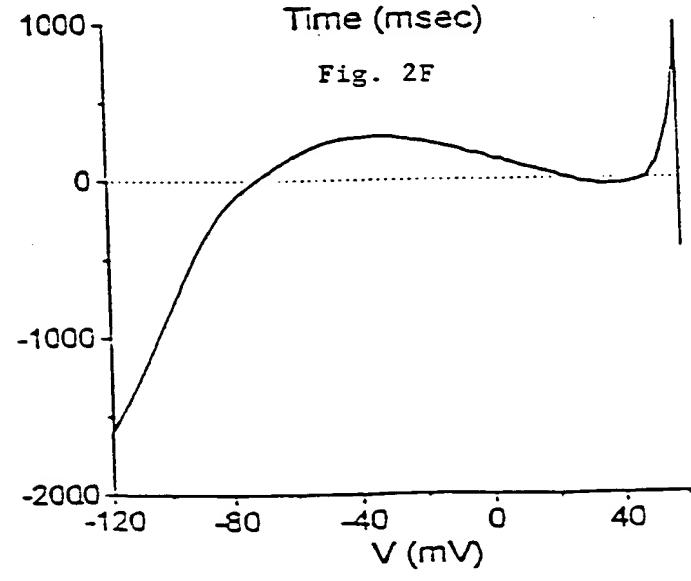
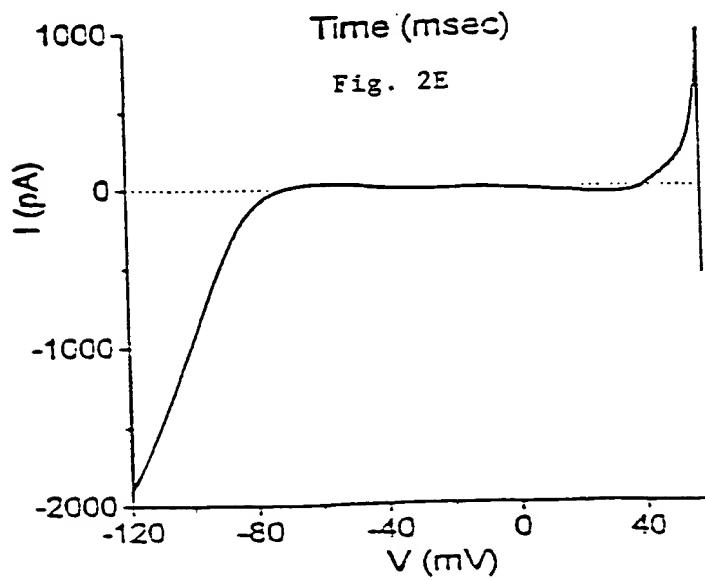
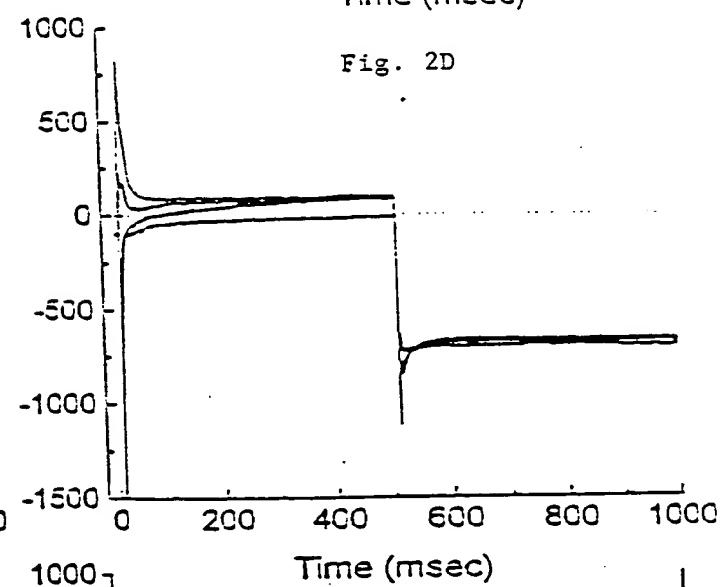
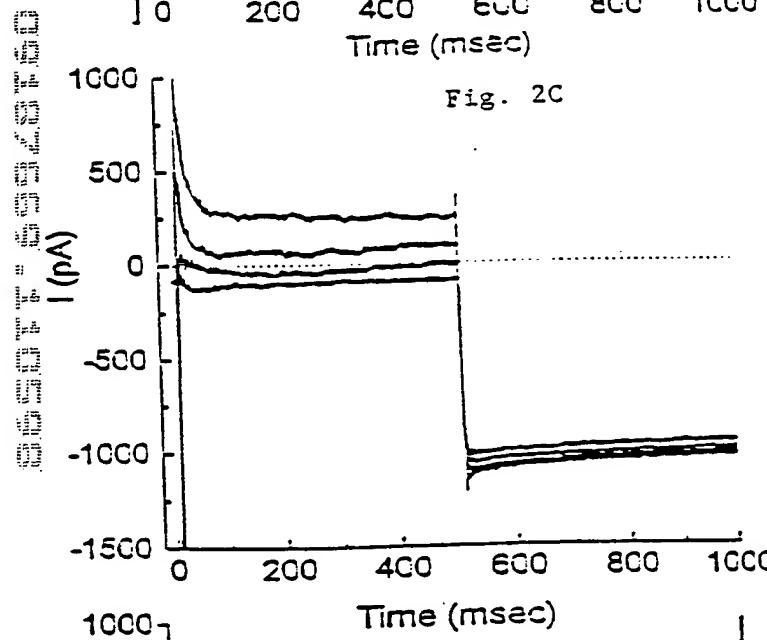
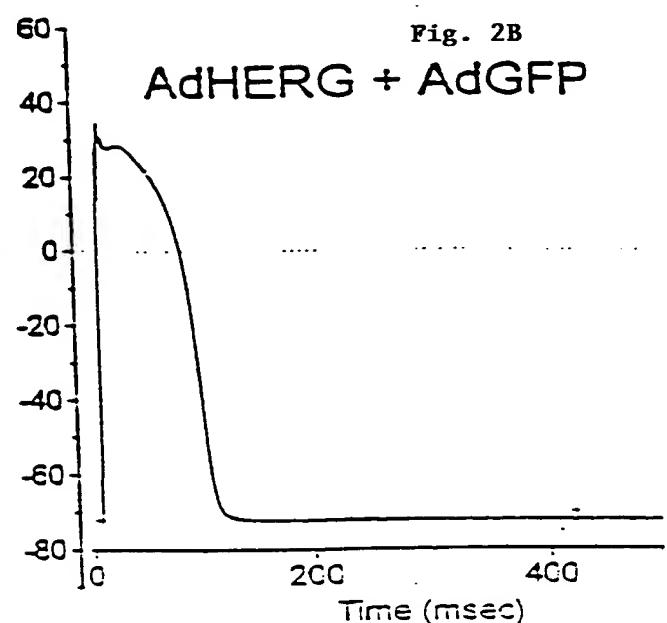
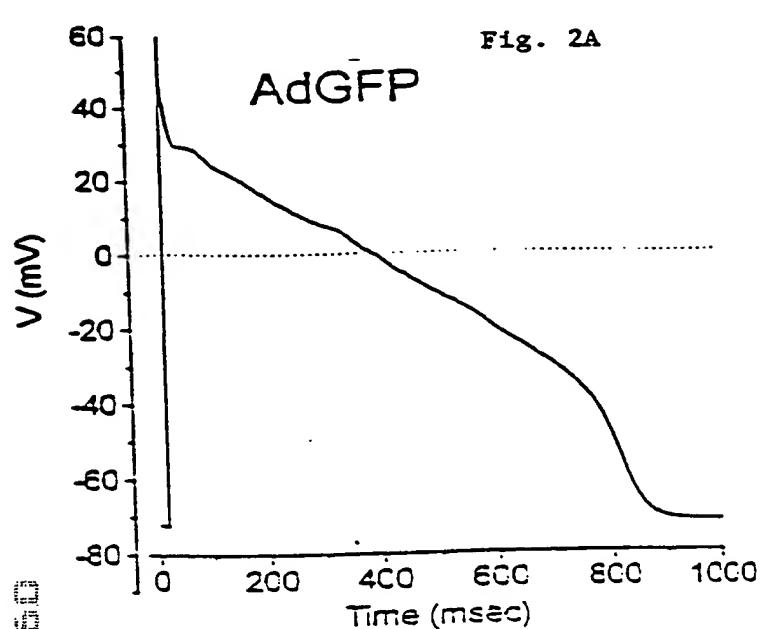
FIGURE 1-D

PROTEIN	DESCRIPTION	REFERENCE	mRNA/gene Sequence
Dehydrogenase	Xanthine dehydrogenase Alcohol dehydrogenase 7 sigma subunit (class IV)	Hs.250 Hs.389	D11456 U09623
	Succinate dehydrogenase 2, flavoprotein (Fp) subunit	Hs.469	U07821 D30648 L21936
Synthetase	Long chain fatty acid acyl-coA ligase Poly(polyglutamate synthetase Glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), catalytic	Hs.34 Hs.754 Hs.1673	L09229 M98045 M90656
	Hydroxymethylbilane synthase	Hs.82609	M95623
Deaminase	Dipeptidylpeptidase IV (CD26, adenosine deaminase complexing protein 2) Deoxyribonuclease deaminase	Hs.44926 Hs.76894 Hs.82927	M80536 L12136 U16270
	AMP deaminase 2 Adenosine monophosphate deaminase (isoform E)	Hs.83918	M84721
Oncogene	V-crk avian sarcoma virus CT10 oncogene homolog Thyroid hormone receptor, alpha (avian erythroblastic leukemia viral [v-erb-a] oncogene homolog)	Hs.16 Hs.724	D10656 M24899
	Friend leukemia virus integration 1 RAP1A, member of RAS oncogene family	Hs.736 Hs.865 Hs.1166	M98833 M22995 L36051
	Thrombopoietin (myeloproliferative leukemia virus oncogene ligand, megakaryocyte growth and development factor)		
Fos	Fibroblast growth factor 4 (heparin secretory transforming protein 1, Kaposi sarcoma oncogene)	Hs.1755	J02986 M17446
Jun	V-erb-a avian erythroblastic leukemia viral oncogene homolog-like 4 P55-c-fos proto-oncogene protein C-jun proto oncogene (JUN)	Hs.1939	I07868 V01512 J04111 M29039
Jun B	Jun B proto-oncogene	Hs.89792	

FIGURE 1-E

#106085

Canine LV myocytes infected with dGFP or AdHERG



Schematic

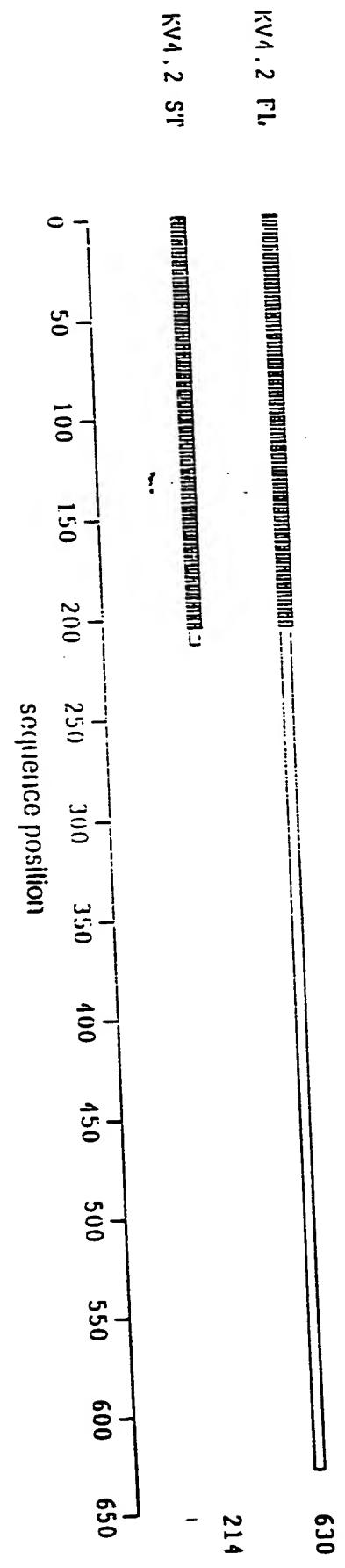


Fig. 3A

Alignment

KV4.2	Fl.	120
KV4.2	St	60
KV4.2	Fl.	120
KV4.2	St	100
KV4.2	Fl.	100
KV4.2	St	100
KV4.2	Fl.	240
KV4.2	St	214
KV4.2	Fl.	300
KV4.2	St	214
KV4.2	Fl.	360
KV4.2	St	214
KV4.2	Fl.	420
KV4.2	St	214
KV4.2	Fl.	400
KV4.2	St	214
KV4.2	Fl.	540
KV4.2	St	214

KV4.2 FL
KV4.2 SR

pnawvsgshrqsvqelstiqircreverplnsrslmakneecvklnceqpyvtalis 600
214

KV4.2 FL
KV4.2 SR

ptppvttpeqdrrpespeysqgnlvrval 630
214

A

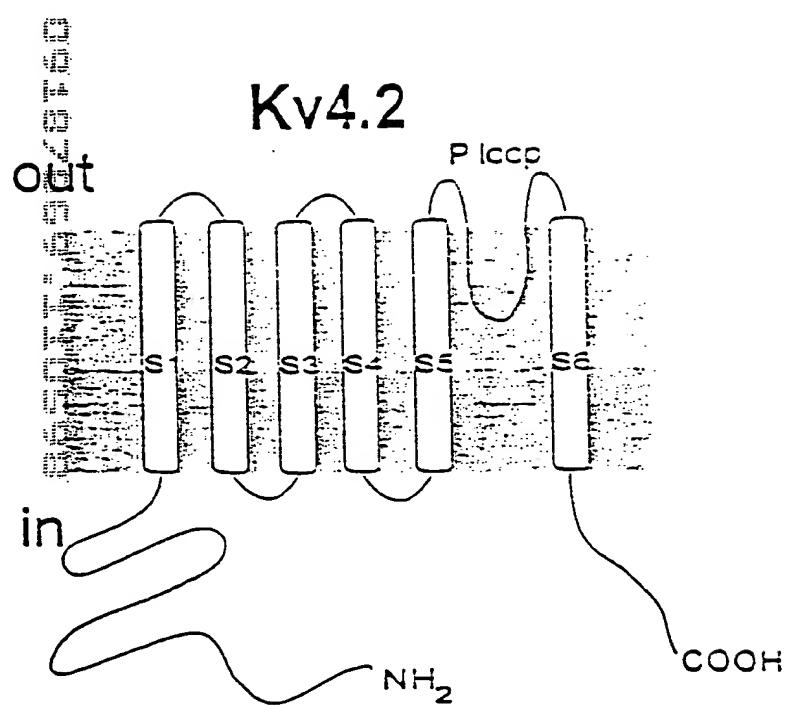


Fig. 4A

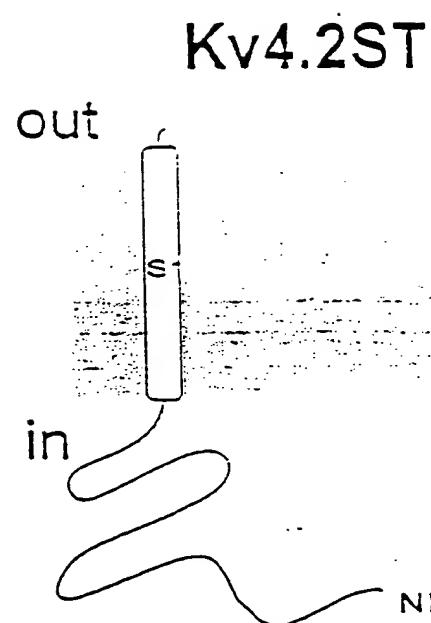


Fig. 4B

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

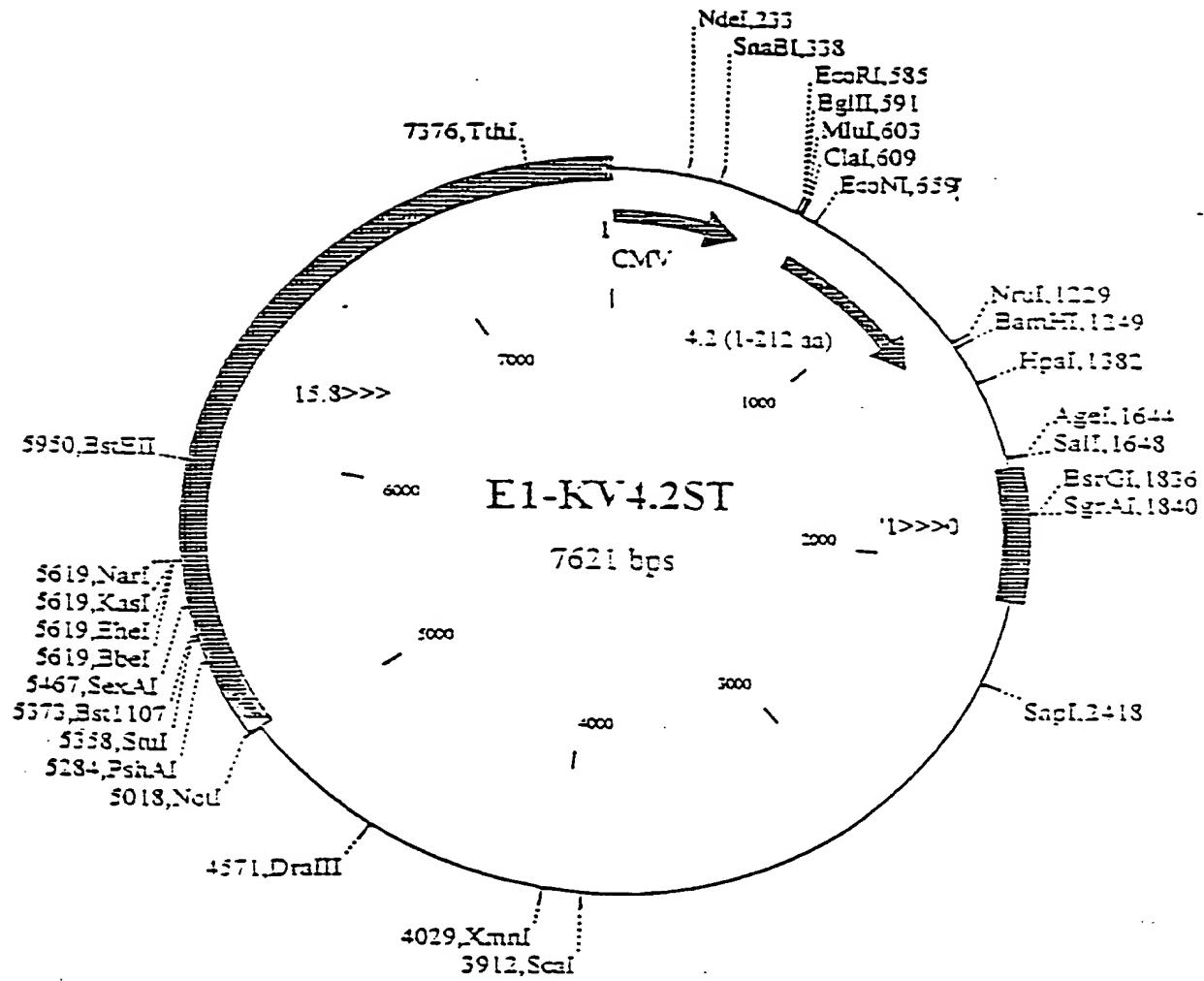


Fig. 5

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

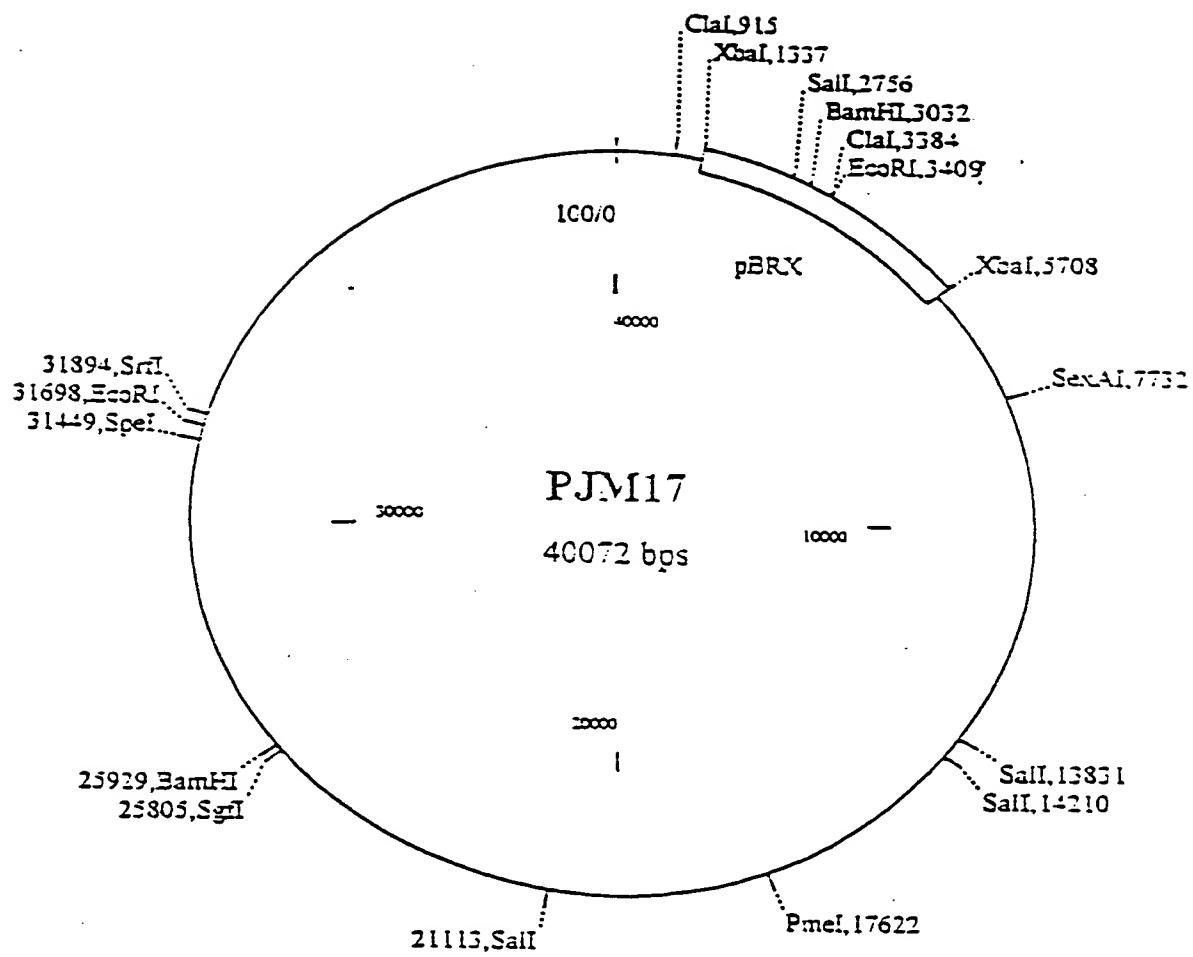
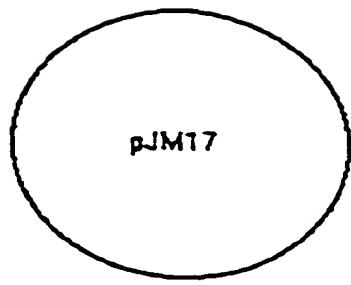


Fig. 6



pE1-KV4.2ST



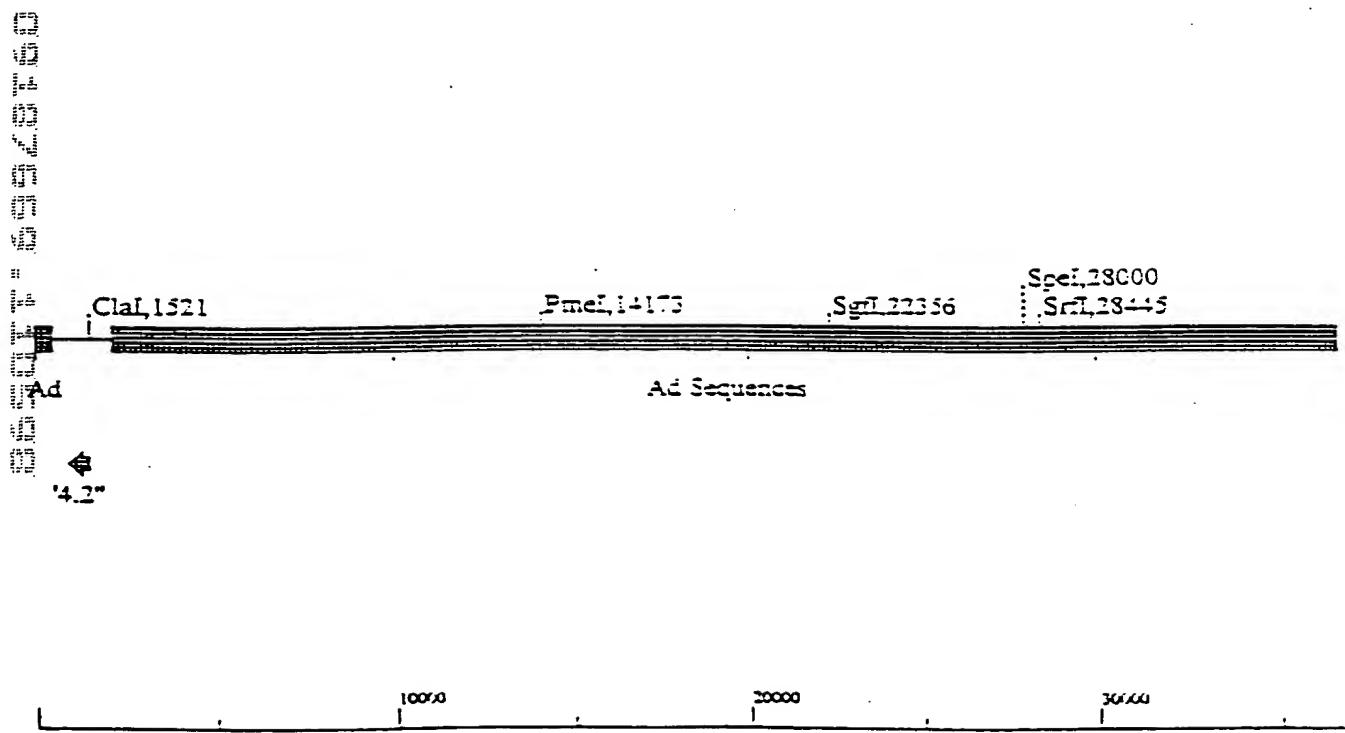
pJM17

+



AdKV4.2ST

Fig. 7A



Ad42ST (36623 bps)

Fig. 7B

1 2 3 4 5 6 7 8 9 10

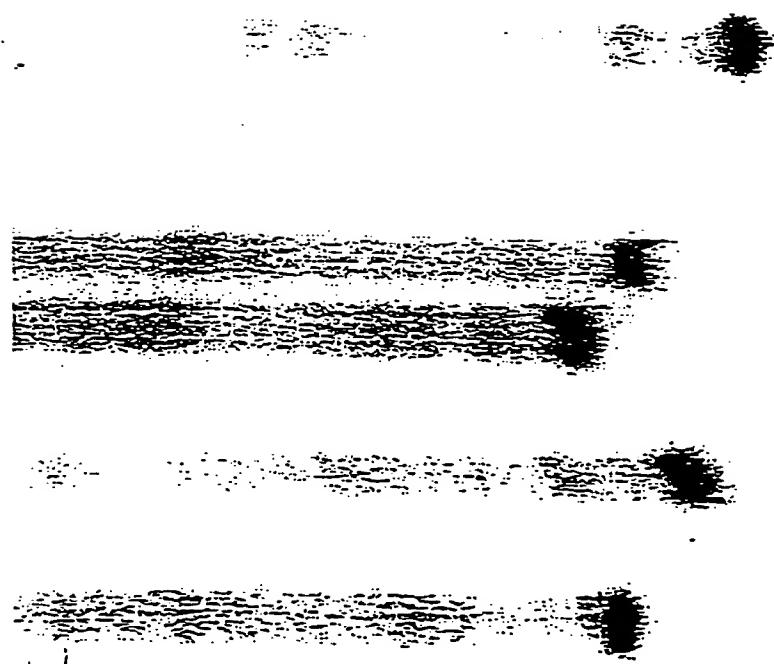


FIG. 8

pCMV β -Gal
+ pREP-Kv4.2FL

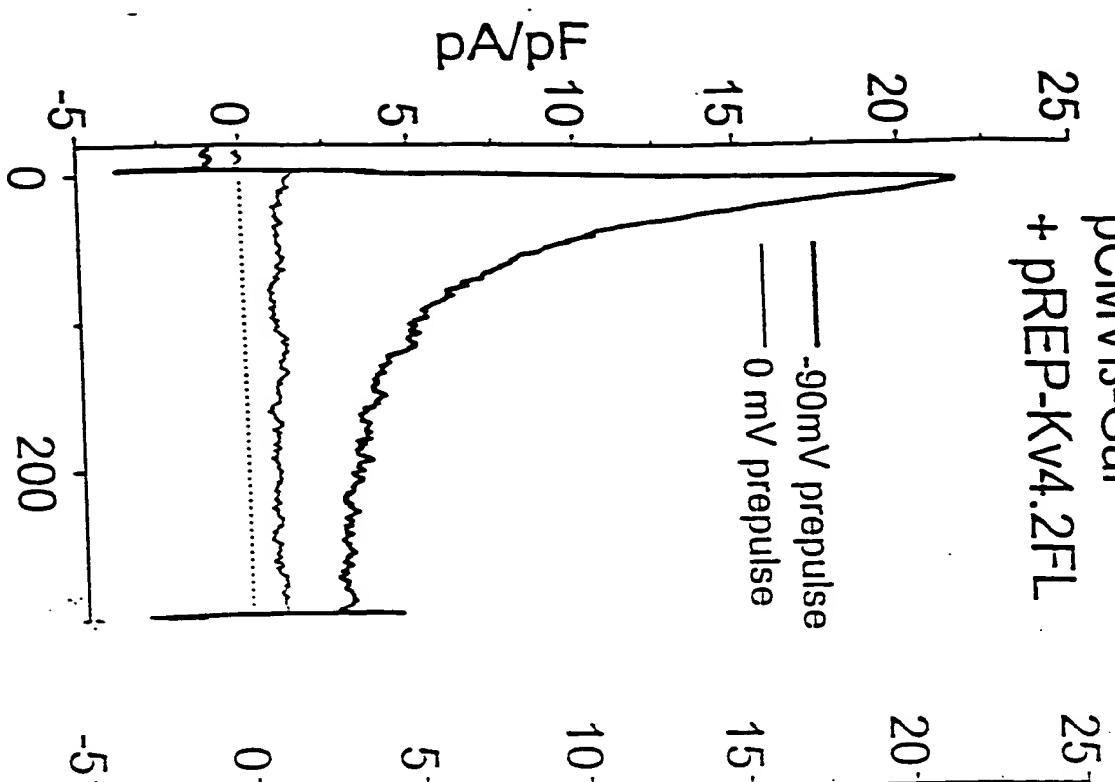


Fig. 9A

pE1Kv4.2ST
+pREP-Kv4.2FL

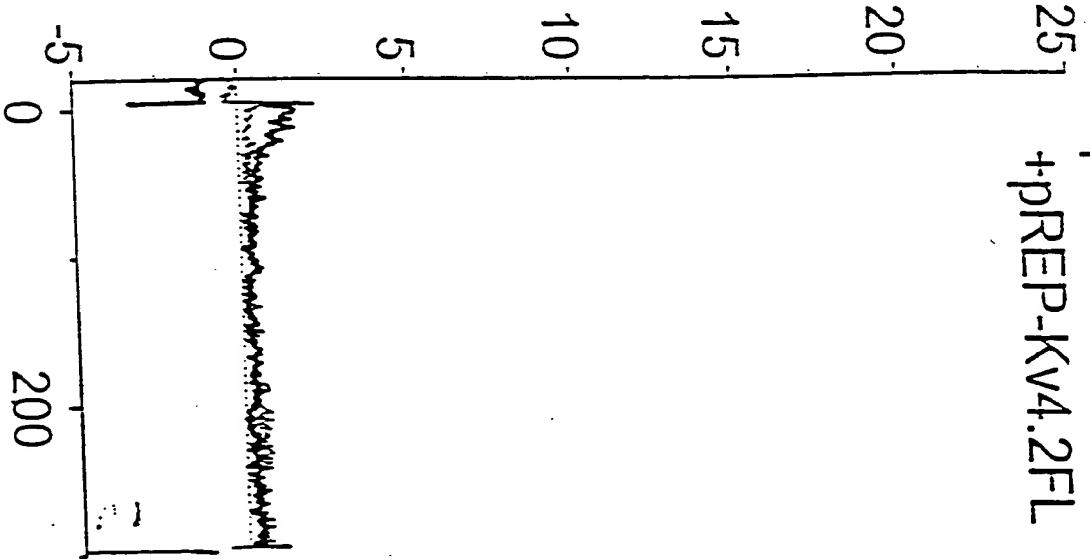


Fig. 9B



Fig. 9C

pCMV5-Kv1.5
+ pCMV β -Gal

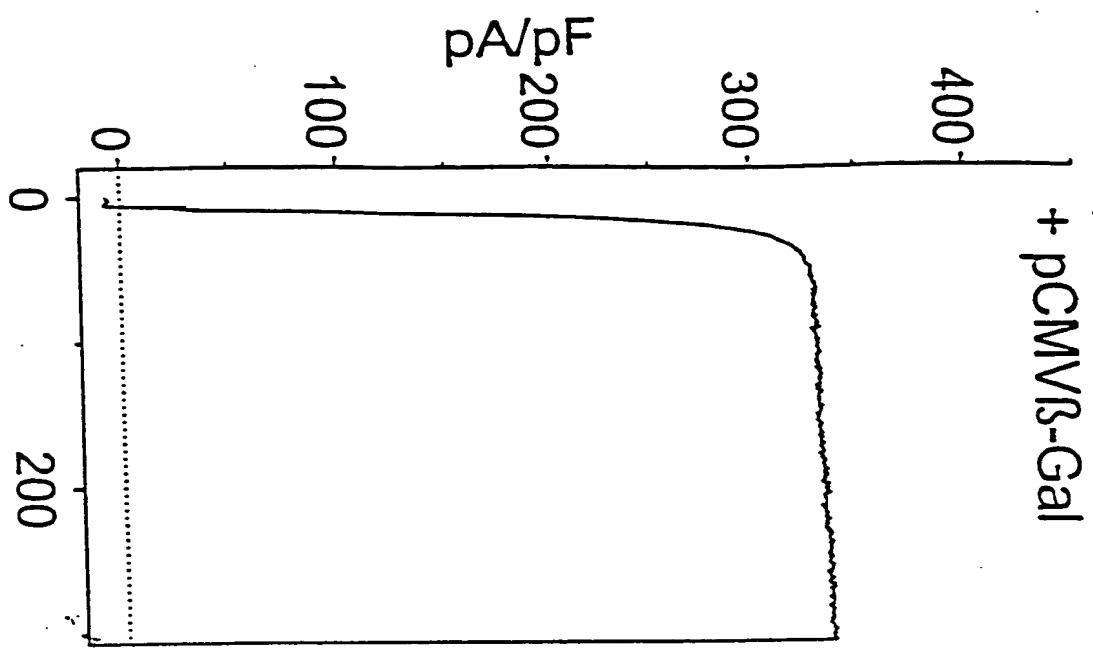


Fig. 9D

pCMV5-Kv1.5
+ pE1Kv4.2ST

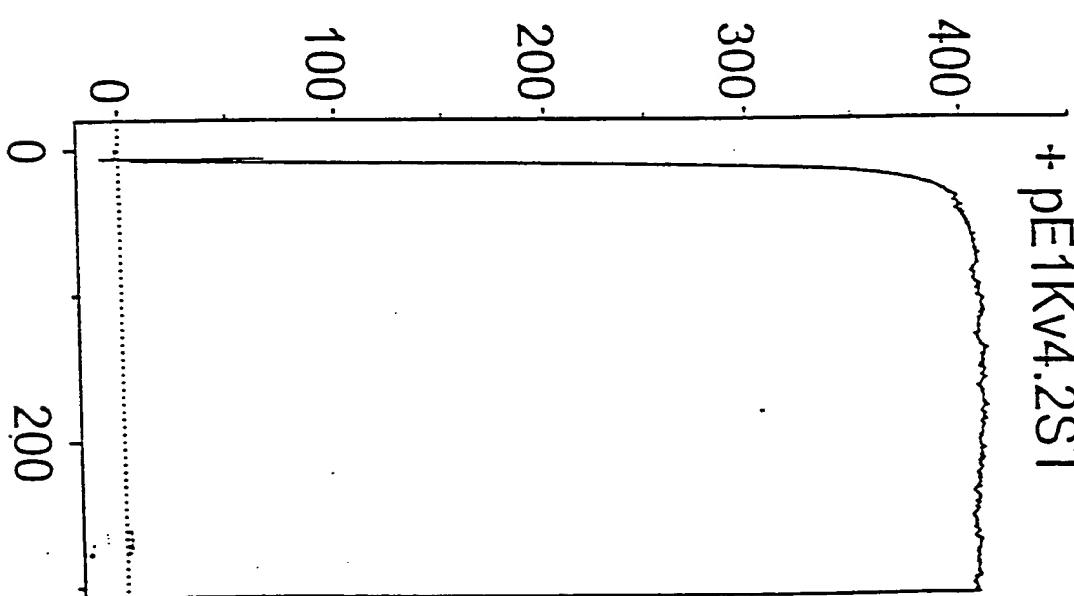


Fig. 9E

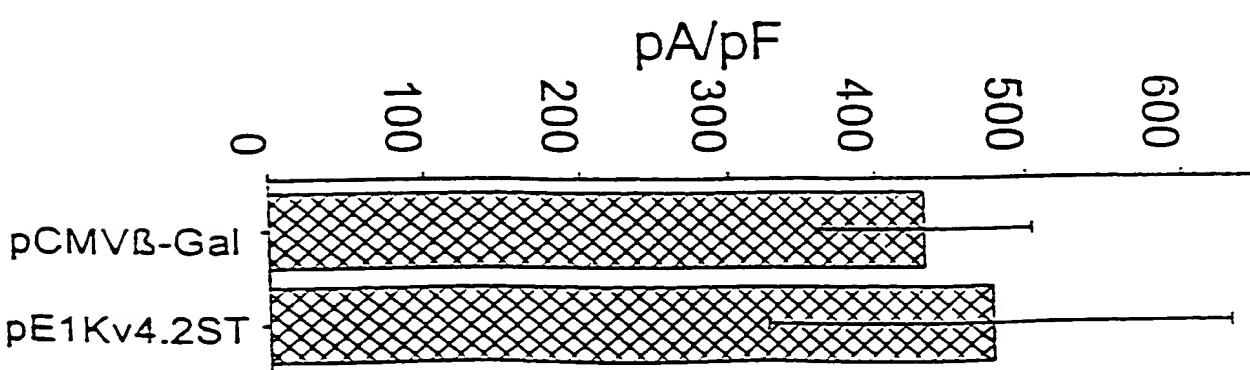


Fig. 9F

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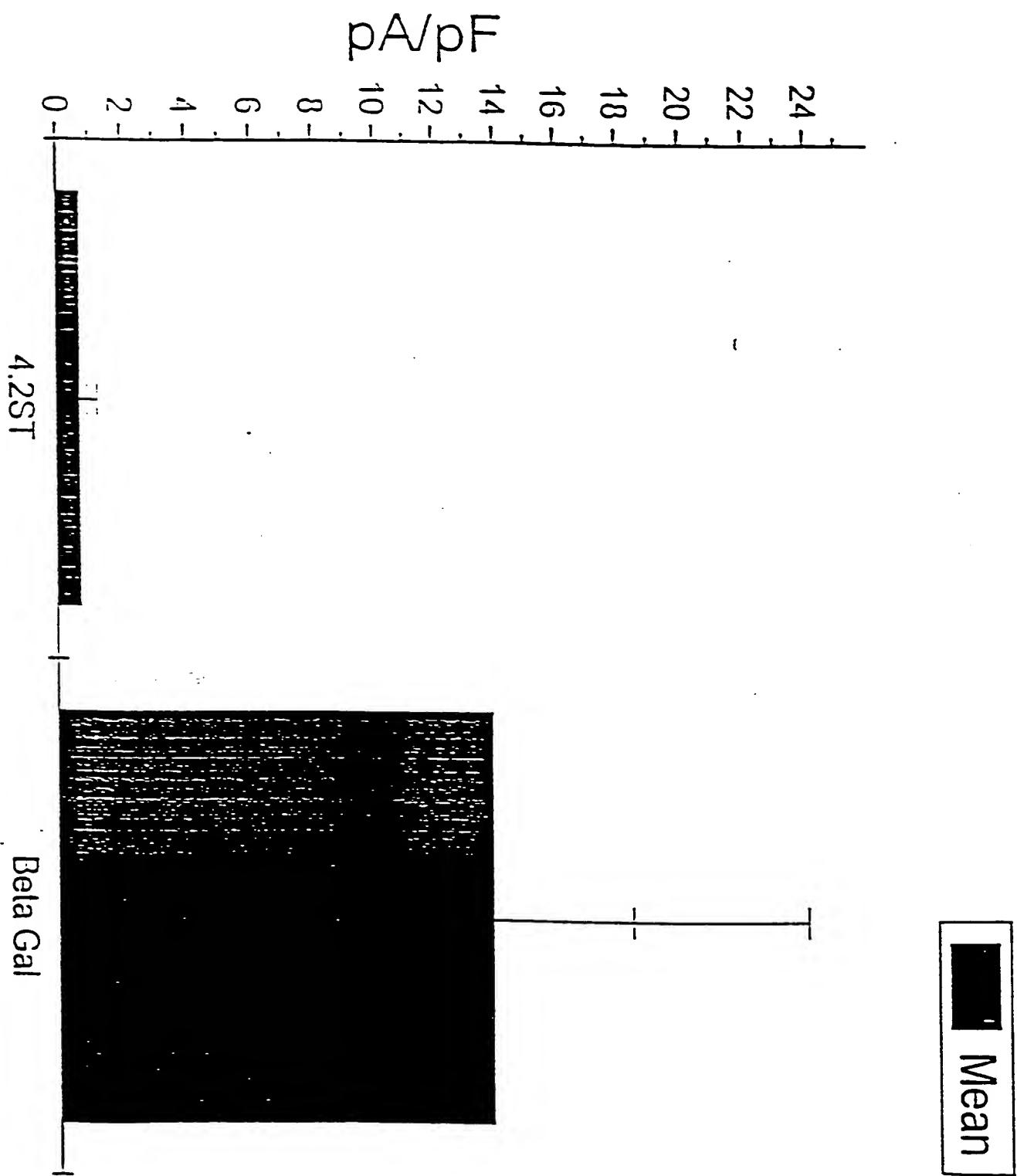
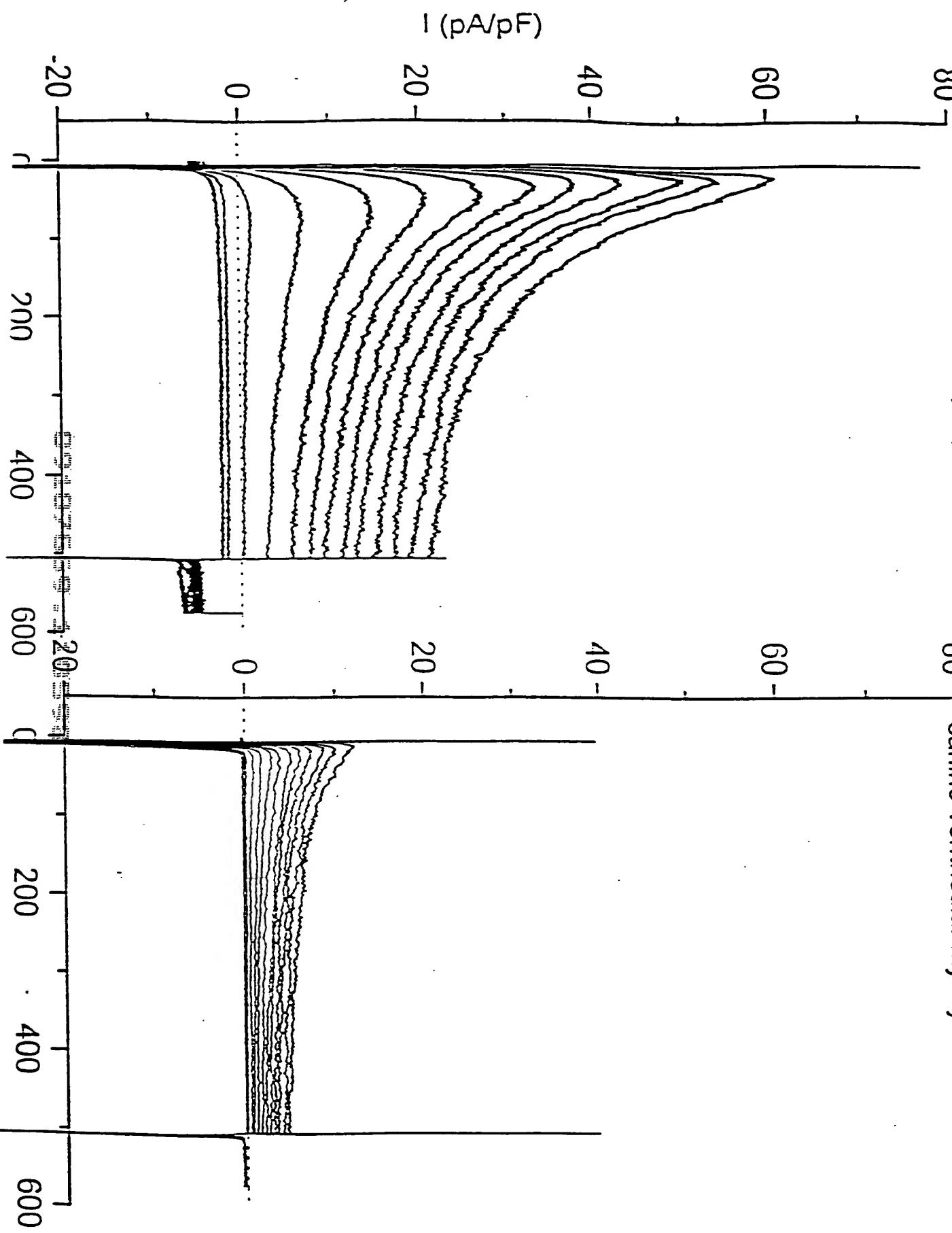


Fig. 10B

Fig. 11A

canine ventricular myocyte in culture



Ad-Kv4.xST-infected

canine ventricular myocyte in culture

Fig. 11B

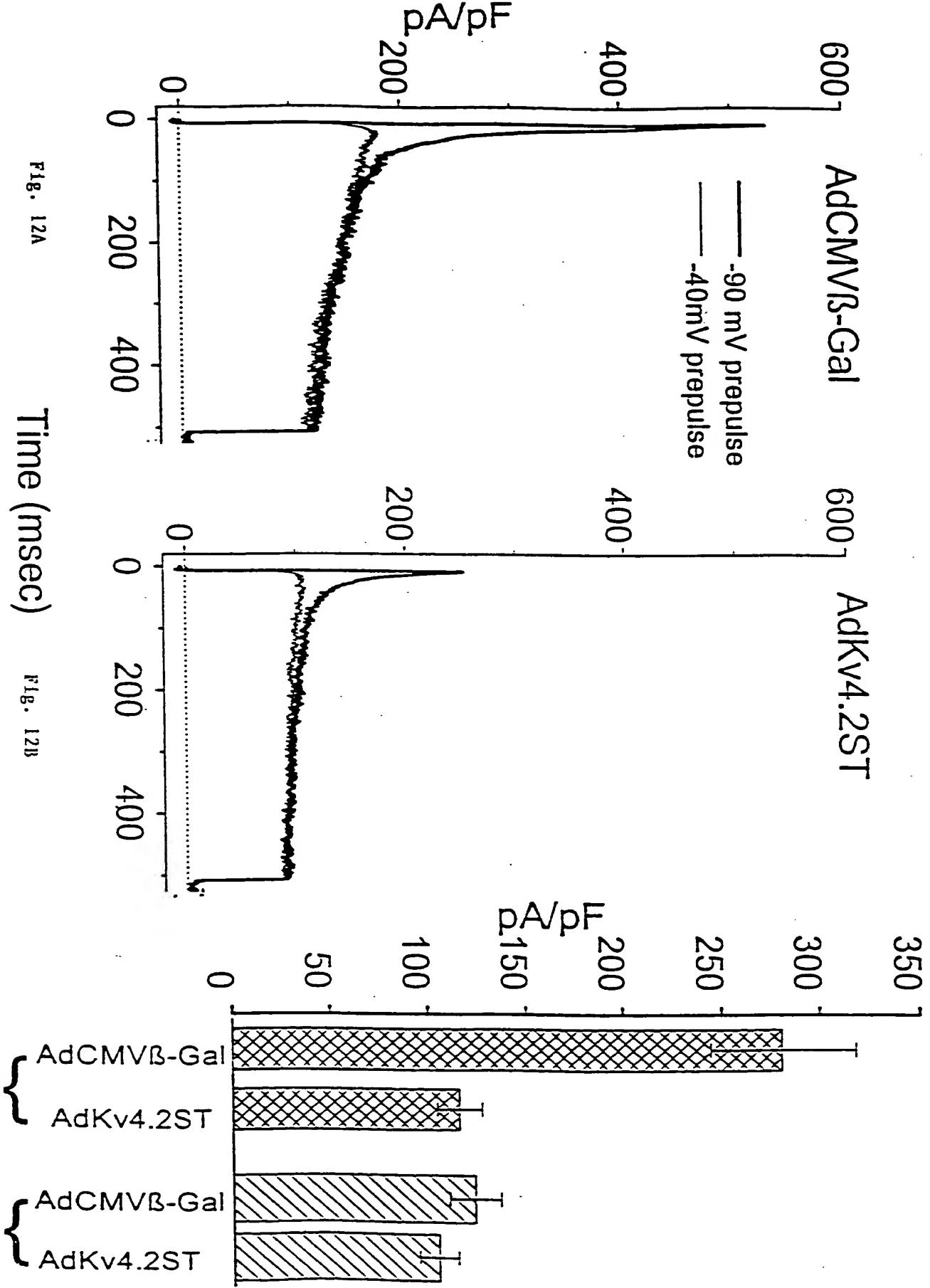


Fig. 12A

Time (msec)

Fig. 12B

Transient Component

Maintained Component

Fig. 12C

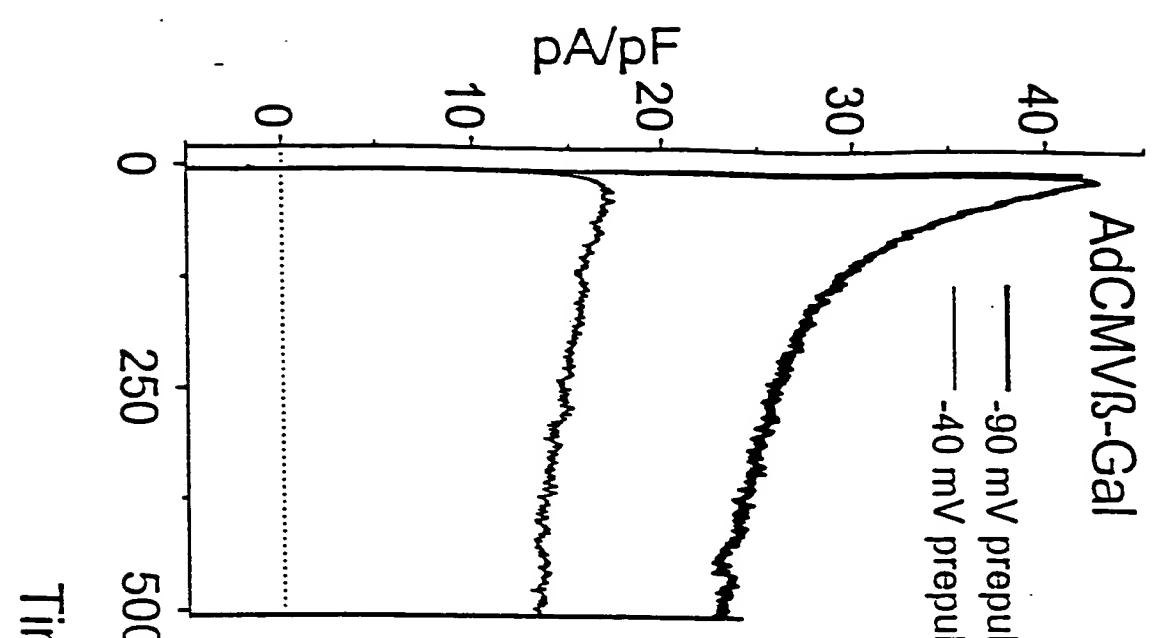


Fig. 13A

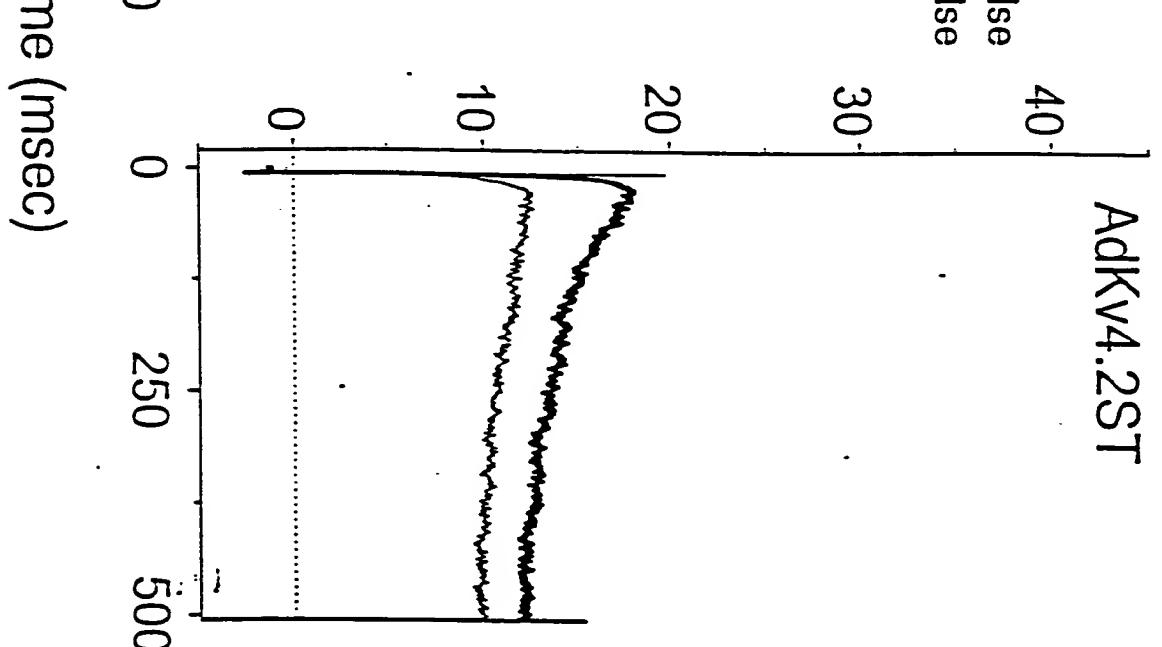


Fig. 13B

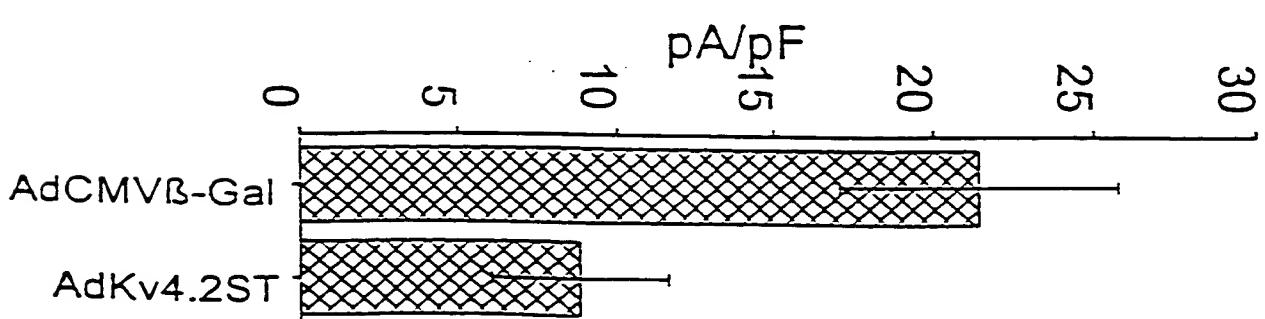


Fig. 13C

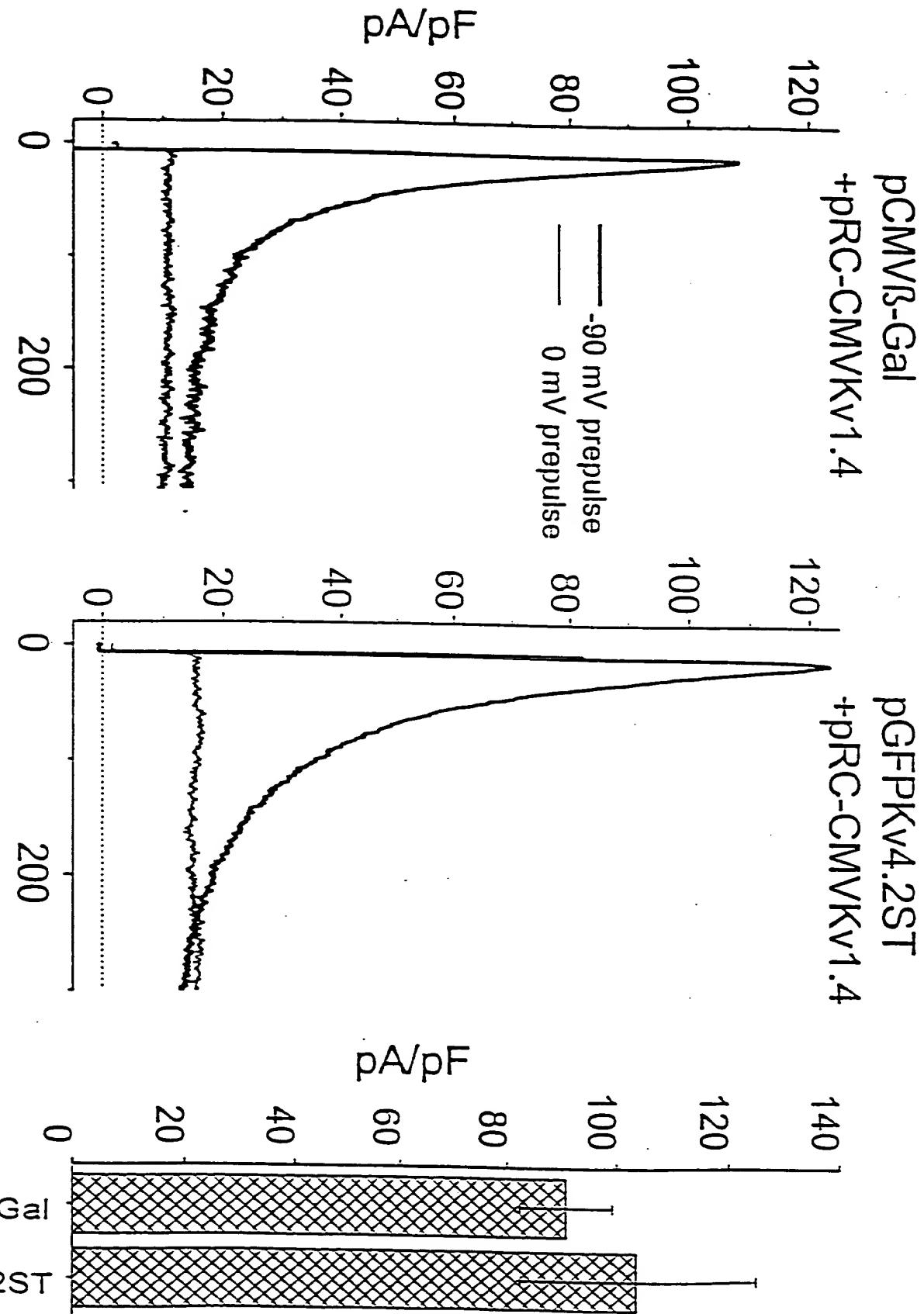


Fig. 14A

Fig. 14B

Fig. 14C

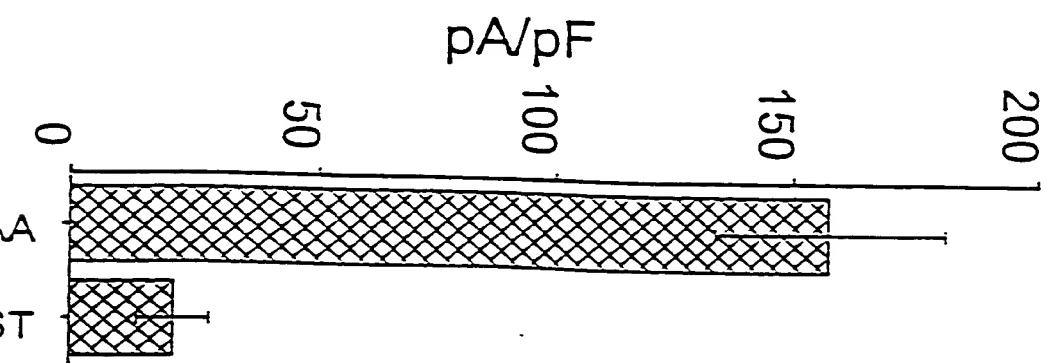
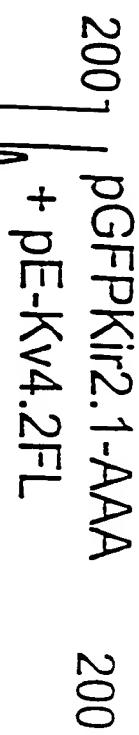


Fig. 14D

Time (msec)

Fig. 14E

Fig. 14F

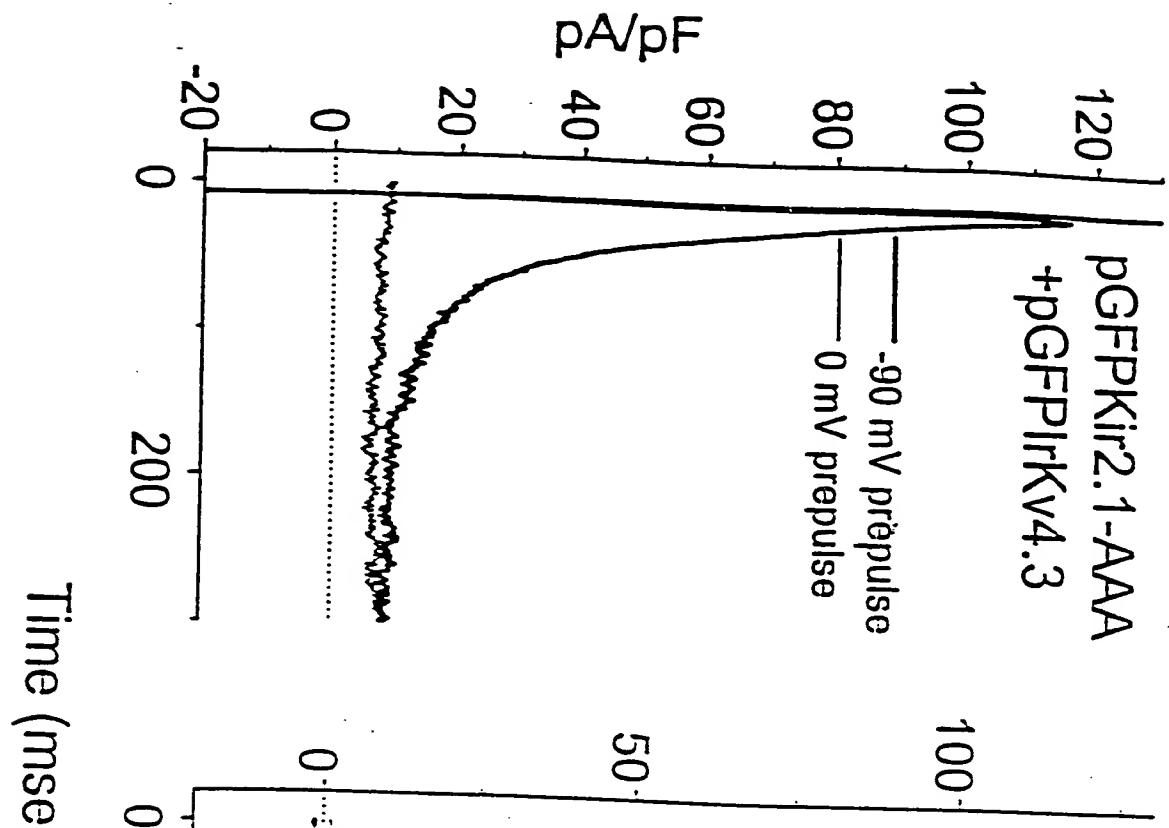


Fig. 14G

Fig. 14H

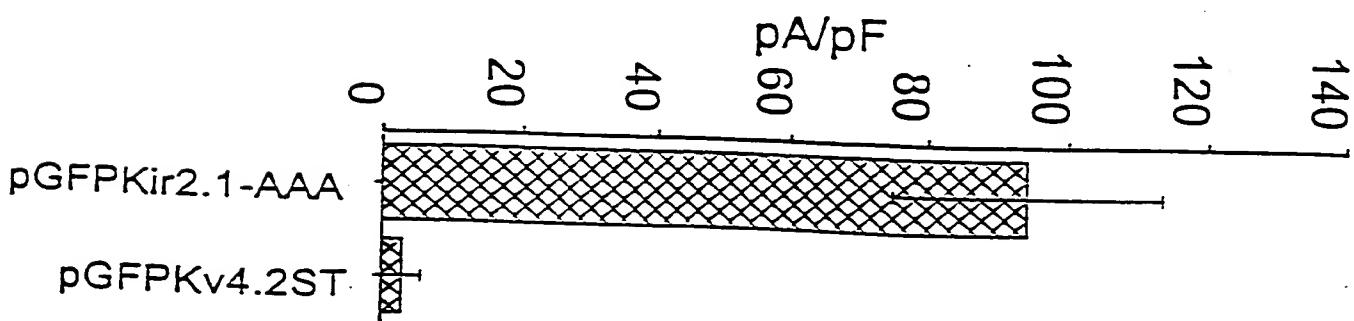


Fig. 14I

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Fig. 15A



Fig. 15B

